Script by Thomas A. Watson, December 21, 1914

Revised December 21, 1914. Telephone Reminiscences. arranged by Thomas A. Watson.

Characters, Alexander Graham Bell. Thomas A. Watson.

Stage Setting. A room with a table on which are models of telephone apparatus.

When the curtain rises, Watson is standing by the table contemplating the models. Bell enters. Shakes hands with Watson.

Bell. Ah, Mr. Watson, how do you do?

Watson. I am very glad to see you, Dr. Bell.

Bell. These models are interesting. Where did they come from?

W. Mr. Carty, the chief engineer of the American Telephone and Telegraph Co. has had them reproduced from your original experimental apparatus.

B. They evidently cover the history of the Telephone from its inception and (taking up an harmonic telegraph receiver) here is my old harmonic telegraph receiver like those you made for me, Watson, 40 years ago!

W. This is the transmitter that went with it.

B. They bring to my memory the long study I gave to the problem of making these instruments transmit several telegraph messages simultaneously over one wire.

W. Ever since the time I made them for you and helped you test them, I never see them, without a vision arising of you sitting by my work bench in Williams' old shop in Boston,

studying some new 2 piece of the apparatus, or discussing with me some improvement you had in mind.

B. Their perversity was rather disheartening but I see now that those months of discouraging work were just the dark hours before a wonderful dawn. This receiver might well be the very instrument that one afternoon in June 1875, gave me the hint that solved the other problem I had been trying to work out long before I began work on the Harmonic Telegraph, that is, transmitting speech telegraphically, as I used to put it in those days.

W. I remember how enthusiastic you were in your belief that it would soon be possible to talk at one end of a telegraph wire and hear it at the other end even if the wire was several miles long! I must confess I was rather skeptical about it myself when you explained to me your theory one evening when we were testing your telegraph.

B. I had been obsessed for a long time with the idea of talking by telegraph but every attempt I had made to devise a practical telephone had been quite barren until that eventful afternoon of June 2nd 1875, when the misbehavior of these harmonic telegraph instruments solved the problem. Do you remember that afternoon, Mr. Watson?

W. Clearly! The harmonic telegraph had never worked worse. I was feeling lazy. It was a hot day and the attic we were working in was baking. After several months work for you on your telegraph, I had lost faith in it and was hoping you would tell me to chuck the whole 3 thing into the scrap heap. Lucky for both of us you didn't!

B. It had never entered my head to do so. I feel sure I should have perfected it if the telephone had not absorbed almost all my attention after the discovery of June 2nd, 1875. As I remember it, this is how it happened. My harmonic telegraph as you know depended on the law of sympathetic vibrations. An intermittent current of a given musical pitch was produced by each transmitter to which the receiver would respond that had its spring tuned

to that note. You remember how carefully those springs had to be tuned to prevent conflict in the telegraph signals.

Watson. Keeping those springs in tune was one of your constant troubles. When you were tuning a spring you would press it against your ear which enabled you readily to compare its pitch with the pitch of the transmitter vibrating in the other room.

Bell. I was constantly listening to electromagnets in that way to study the sounds produced in them by intermittent currents. On that famous afternoon of June 2nd, 1875, I had arranged in one of the rooms in Williams' attic three transmitters of three different pitches, three receivers with springs tuned to the same pitches, three signaling keys and a galvanic battery. In the other room were duplicates of these receivers. All these were connected on a single wire running between the two rooms. That afternoon you were in the room with the receivers, I was in the room with the transmitters, receivers and keys, getting ready to send you some Morse signals when suddenly I observed one of the receiver springs 4 vibrating although neither of the keys was being pressed. This struck me as most remarkable and I at once placed that spring against my ear to see what kind of a current was causing that phenomena. To my intense surprise I heard a faint twang that had the unmistakable timbre of one of the receiver springs. The twang was repeated several times and then I rushed into your room to see what you were doing.

Watson. I remember how excited you were and how eagerly you questioned me and examined the instruments in my charge.

Bell. I found that one of your receiver springs had become so strongly magnetized that it had adhered to the pole of its magnet and that you had snapped it several times in order to set it free to vibrate.

Watson. Yes. I was thoroughly disgusted with the way those bothersome things were working that hot afternoon and when that thing stuck I had given it some very vicious snaps when you came rushing through the door in great excitement.

Bell. No wonder I was excited! Never before that moment had a real sound been transmitted and heard electrically. The sticking of that receiver spring had solved the problem I had been struggling with so long. That thin strip of magnetized steel set into vibration over the pole of its electromagnet by your snapping had generated an electric current that realized fully my theory of the telephone which, as you remember, was, that I would be able to talk by telegraph if I could find a means by which I could make a current of electricity 5 vary in its intensity precisely as the air varies in density during the production of a sound. When I heard that sound the thought came to me at once that an instrument that could transmit one sound so perfectly could with some modification be made to transmit any sound, even speech!

Watson. Your excitement drove the tired feeling out of me and you kept me plucking springs and making various combinations all that afternoon. Just before we finished work that night you made a rough sketch of the first speaking telephone which I was to construct as soon as I possibly could.

Bell. This is a model of that very instrument. I directed you to take one of the harmonic receivers and attach a drumhead to the free end of its spring. I was sure that when I talked against that drum head the spring attached to it would be forced to follow the vocal vibrations and transmit speech tones instead of merely its own twang.

Watson. I carried out your ideas and had the first telephone ever made ready for trial the next day. Its test proved that your theory was correct. The telephone was horn June 2, 1875. You made many modifications of it during the next two years but all your experimenting after the date of the discovery was really a matter of working out the best forms of its details.

Bell. Another great day in the history of the telephone was Oct. 9th, 1876 when I felt I had my telephone working well enough to try it on a real live wire. Do you remember that evening?

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Watson. Perfectly. That was the first time your baby invention was ever taken out doors. The line you used was two whole miles long between Boston and Cambridge! I remember my despair when at first I couldn't hear a sound from you but after a little adjustment, your voice came louder and clearer than I had ever before heard it through the telephone.

Bell. The success of that experiment was one of the greatest joys of my life. I knew then that the telephone was ready for the world's service. When I talked from N. Y. the other day to you in San Francisco over a line 3400 miles long, I thought of our talk 38 years before over a 2 mile wire, and realized the immense work that the engineers of the Bell System have done to make this marvellous achievement possible.

Watson. I wonder to what further heights they will attain?

Bell. This is not the end of their achievements. They will do even greater things than this. I am certainly very glad I have lived to see transcontinental telephony an accomplished fact.

Watson. May you live to see many more extensions of the great work you did 40 years ago!

(They shake hands as the picture closes).